

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re application of

Bernard BOURSIER et al.

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Application No. 10/589,127

Group 1789

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Examiner Thuy Tran Lien

METHOD FOR PRODUCING A GLUTEN-BASED BAKED PRODUCT

DECLARATION UNDER 37 CFR 1.132

Assistant Commissioner for Patents  
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Sir:

I, Bourcier B., declare as follows:

I am one of the named inventors of the above identified application.

I am familiar with the present application and the Official Action mailed November 8, 2010, which rejects the claims as being obvious over BRENDDEL et al. 2002/0192344 (BRENDDEL) and/or KILIBWA U.S. 6,217,930 (KILIBWA) in view of the Journal of the Chinese Cereals and Oils Association ("the Chinese Journal article"). None of these documents alone or as combined suggest the unexpected superior results obtained by the addition of reducing agents.

Additional tests of production of brioches were carried out under my direction to demonstrate these unexpected superior results:

Brioche have been produced with the branched maltodextrine (as disclosed in EP 1 006 128) as improving agent.

New formulations D, E, F and G have been tested and compared to the results disclosed in the specification as filed in Example 2:

	Tests of Example 2			New additional tests			
	A	B	C	D	E	F	G
Leforest flour (g)	1009.9	1014.7	984.8	1109.7	1014.9	1014.4	984.5
Vital gluten (g)	40	40	40	40	40	40	40
Mélioise glucose syrup (g)	175	175	85	175	175	175	85
Whole egg 4°C (g)	150	150	150	150	150	150	150
Fresh butter 85 wt.% (g)	300	200	200	200	200	200	200
Water (g)	250	250	270	250	250	250	270
Improving agent according to the invention (g)	0 (0%)	100 (5%)	200 (10%)	0 (0%)	100 (5%)	100 (5%)	200 (10%)
Baker's yeast (g)	50	50	50	50	50	50	50
Salt (g)	20	20	20	20	20	20	20
Enzyme (g)	0.1	0.1	0	0.1	0.1	0.1	0
Ascorbic acid 1% (ml)	5	0	0	5	0	0	0
Cysteine (g)	0 (0%)	0.2 (0.01%)	0.2 (0.01%)	0.2 (0.01%)	0 (0%)	0.5 (0.025%)	0.5 (0.025%)
total (g)	2000	2000	2000	2000	2000	2000	2000
Water temperature	8°C	25°C	30°C	8°C	25°C	25°C	25°C
Spiral kneader Speed 1	3 min	1 min	1 min	3 min	5 min	1 min	1 min
Spiral kneader Speed 2	15 min	8 min	15 min	20 min	45 min	7 min	12 min
Temperature at the end of kneading	29.5 °C	26.5 °C	27 °C	28°C	28°C	27°C	27°C

Relaxation time at room temperature	15 min	15 min	15 min	15 min	15 min	15 min	15 min
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Proofing time, 28°C, 85% H <sub>2</sub> O	1h45	1h45	1h45	1h45	1h45	1h45	1h45
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Weighing and rolling of 500g brioches and 60g briochettes							
Length increase in shaping of the brioches 4/3 (cm)	36,7	32,9	32,9	too sticky	32	29	32

The briochettes are shaped by hand  
 Baking in rotary oven, 190°C :  
     - brioches 23 minutes  
     - briochettes 15 minutes  
 Egg and water glaze

Average weight of brioches after baking (g)	465.3	465	463	464	464.5	464	464.8
Average weight of briochettes after baking (g)	53.4		52.77	52.8	53.2	53	52.8
Average volume of brioches (ml)	1747	1707	1970	1500	1700	1710	1780
Volume of 3 briochettes (ml)	560	540	740	450	500	530	580
Final moisture content of brioche (%)	31.99	31,12	29.45	29.5	30.5	29,85	31.1

Comments :

- In Formulation D, 0.2 g of cysteine, which is a reducing agent, has been added to the control formulation A, which does not contain any improving agent according to the present invention.

The experimenter noticed that the dough obtained with Formulation D was very sticky. It was therefore not possible to measure the length increase in shaping of the brioches.

This stickiness could be explained by the fact that the reducing agents like cysteine lessen the cohesion of the gluten network.

The experimenter also noticed that the brioches and briochettes finally obtained with Formulation D had reduced volumes when compared with brioches and briochettes obtained with Formulation A.

These results demonstrate that the addition of a reducing agent like cysteine has an impact on the quality of the baked product. In these examples, the volume of the baked products is reduced.

- Formulation E differs from Formulation B in comprising 5% of the improving agent, but no reducing agent.

The experimenter noticed that it was necessary to knead the dough during a very long time (5 min + 45 min) to obtain a workable dough and finally brioches. Indeed, with 5% of improving agent, hydration of the gluten of the flour is spontaneous. A kneading time of 50 min is not acceptable from an industrial point of view.

- Formulations F and G comprise different amounts of improving agents and cysteine.

The experimenter noticed that the brioches and briochettes obtained with Formulations F and G have a volume approximately equal to the volume of the product obtained with

the control formulation A. However, at the same time, the dough tenacity (evaluated by the measure of the length increase in shaping of the brioche) of Formulations F and G is increased against Formulation A.

When evaluated by a panel of consumers, the baked products obtained with Formulations F and G have been judge of very satisfactory quality, with organoleptic properties comparable to the product obtained with the control formulation A, and with increased softness.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date

July 07, 2011

